

REMARKS

The independent claim has amended to recite that the evaporation inhibiting layer has a porosity of 70 to 90%, and two new claims presented to recite that the evaporation inhibiting layer has a thickness of about 30 to 300 μm . Basis for these changes can be found in the application at page 13, lines 5-8.

In the Office Action of January 15, 2010, claims 1 and 7 were rejected under 35 U.S.C. §103(a) over U.S. Patent Publication No. 2004/0209136 to Ren et al. in view of U.S. Patent Publication No. 2004/0001991 to Kinkelaar et al., and claim 8 was rejected under 35 U.S.C. §103(a) over Ren et al. and Kinkelaar et al., and further in view of U.S. Patent No. 6,808,838 to Wilson. It is respectfully submitted that these rejections should not be repeated as to the claims as amended above.

Among the limitations of independent claim 1 which are neither taught nor suggested in the prior art of record is a solid electrolyte fuel cell having an evaporation inhibiting layer that is made of a woven or unwoven fabric containing a specific type of fibrous cellulose having a volume expansion coefficient of 4.5 or less and initiating water migration from the evaporation inhibiting layer to the cathode at a temperature of 80°C or lower and the layer has a porosity of the evaporation inhibiting layer of 70 to 90%.

There are many benefits that the inventors have discovered with the use of a fibrous cellulose having the volume expansion and water migration properties defined in claim 1. For example, and as described in the present specification at page 6, line 19 to page 7, line 2, the use of such a specific type of fibrous cellulose is advantageous in that destruction of an MEA due to excessive expansion of the evaporating inhibiting

layer can be avoided, and excessive drying of the cathode can be prevented while maintaining the capability of adsorbing or absorbing water.

Ren et al. modified by Kinkelaar et al. does not disclose an evaporation inhibiting layer that is made of a woven or unwoven fabric containing a fibrous cellulose having “a volume expansion coefficient of 4.5 or less and initiating water migration from the evaporation inhibiting layer to the cathode at a temperature of 80°C or lower.” It is contended, however, that such properties are inherent in the materials disclosed in Ren et al. and Kinkelaar et al. Applicants respectfully disagree, and submit that a *prima facie* case of obviousness has not been presented.

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art). In order to establish inherency, the extrinsic evidence “must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

Also, “[a]n invitation to investigate is not an inherent disclosure” where a prior art reference “discloses no more than a broad genus of potential applications of its discoveries.” *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1367, 71

USPQ2d 1081, 1091 (Fed. Cir. 2004) (explaining that “[a] prior art reference that discloses a genus still does not inherently disclose all species within that broad category” but must be examined to see if a disclosure of the claimed species has been made or whether the prior art reference merely invites further experimentation to find the species. Accordingly, it is well established that the disclosure of a genus in the prior art is not a disclosure of every species that is a member of that genus. *In re Baird*, 29 USPQ2d 1550 (Fed. Cir. 1994).

As the Examiner has acknowledged, when “relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.” *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). The last Office Action admits that the features of volume expansion coefficient of 4.5 or less and initiating water migration from the evaporation inhibiting layer to the cathode at a temperature of 80°C or lower are not disclosed by either reference, but asserts that the required basis in fact and/or technical reasoning has been presented in that Ren and Kinkelaar use the same material (namely cellulose) as applicants and that Ren modified by Kinkelaar is a species of applicants’ genus. It is respectfully submitted that this assertion is not tenable because it necessarily assumes that all cellulose has these properties, and there is no factual basis for that assumption.

It is well known that the particular properties of any given material can vary greatly and depend on many factors such as, for example, material density and type and amount of fillers or additives. Thus, reference to a genus of woven or unwoven

fabric containing a fibrous cellulose does not mean that a specific species of material having a suitable volume expansion coefficient and specific water migration properties at 80°C or lower are disclosed. Nowhere has an attempt been made to show that the materials disclosed in Ren et al. and/or Kinkelaar et al. allude to having “a volume expansion coefficient of 4.5 or less and initiating water migration from the evaporation inhibiting layer to the cathode at a temperature of 80°C or lower” or recognize that such material properties are important. Instead, they are deemed to do so based on silence and that is not permissible. “Silence does not provide a factual basis on which a conclusion of obviousness may be drawn” *In re Burt*, 148 USPQ 548, 553 (CCPA 1966); accord, *In re Newell*, 13 USPQ2d 1248, 1250 (Fed. Cir. 1989). If silence cannot provide a factual basis for obviousness, it certainly cannot provide a factual basis for the certainty required when inherency is alleged. The required basis in fact and/or technical reasoning does not exist.

Beyond the foregoing, nothing in Ren and/or Kinkelaar teaches or suggests the feature of a porosity of the evaporation inhibiting layer of 70 to 90% as now recited in claim 1, or a thickness of about 30 to 300 μm as now recited in the new claims.

Wilson does not remedy any of the deficiencies of Ren et al. and Kinkelaar et al. Wilson does not disclose or suggest an evaporation inhibiting layer having a volume expansion coefficient of 4.5 or less and initiating water migration from the evaporation inhibiting layer to the cathode at a temperature of 80°C or lower and a porosity of the evaporation inhibiting layer of 70 to 90%, as specifically required by independent claim 1, or a thickness of about 30 to 300 μm as now recited in the new claims. Therefore,

even if one were to combine the teaching of Ren et al., Kinkelaar et al. and Wilson, one would not arrive at the present invention as defined in the claims under consideration.

Still further, all of the other claims depend either directly or indirectly from independent claim 1 and include all of the limitations found therein. Each of these dependent claims include additional limitations which, in combination with the limitations of the claims from which they depend, are neither disclosed nor suggested in the art of record. Accordingly, the dependent claims are likewise patentable.

In view of all of the foregoing considerations, allowance of the present application is respectfully solicited.

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Respectfully submitted,

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